

REMARKS

Claims 1-6, 13-15 and 19-28, all the claims pending in the application, stand rejected.

Claims 1, 3, 19-22 and 26-28 are amended. As to claim 3, there is a description supporting this amendment on page 6, line 25 to page 7, line 3 in this specification.

Claim Objections

Claims 1-6, 13-15 and 19-28 are objected to because claims 1, 19-22 and 26-28 contain the limitation “retain impurities on a tip of said probe needles.” The Examiner suggests changing this phrase to “retain impurities from a tip of said probe needles.” Applicants agree with the Examiner’s recommendation and have changed the claims accordingly.

Claim Rejections - 35 U.S.C. § 112

Claims 1-6, 13-15 and 19-28 are rejected under 35 U.S.C. § 112, first paragraph as failing to comply with the written description requirement. This rejection is traversed for at least the following reasons.

The Examiner states at pages 2 and 3 of the Office Action that claims 22 and 26-28 contain the limitation “said cleaning layer contains no additives.” The Examiner asserts that the specification discloses the use of additives, including fillers and pigments (paragraph 0039), which the Examiner asserts contain abrasive materials. The Examiner observes that the specification discloses the use of additives “in amounts within the range in which the effects of the present invention are not deteriorated.” The Examiner suggests that “if this is what Applicants intend to claim, please state so.” An appropriate amendment to the claims has been

made which states that there are “no additives in amounts within a range in which the probe needle is worn.” This states the limitation of claim 1 in a positive manner.

In addition, the Examiner points to claims 1, 19-22 and 26-28 and observes that the limitation “is adapted to receive penetrating probe needles and remove and retain impurities on a tip of said probe needles” is new matter because it is not supported in the specification as originally presented. The Examiner observes that the specification discloses the cleaning layer removes impurities on the tip of the probe needles but does not mention the layer to retain impurities on the probe needles.

In reply, Applicants respectfully refer the Examiner to the teachings at page 19 of the original specification where the operation of the cleaning layer is described. The text at lines 9-11 state that “This motion allows foreign matter 23 such as aluminum oxide adhering at the tip of the probe needle to remain in the cleaning layer 1 and be removed from the probe needle.” Further, at lines 18-24, particularly 20-23, the text states that the cleaning layer “allows the tip of the probe needle to be inserted therein to a sufficient depth and enables the removed foreign matter to be retained within the cleaning layer without fail, there will be no re-adhering of the foreign matter on the probe needle after the cleaning operation.” This text clearly supports the limitations of the claim such that the rejection should be withdrawn.

Claim 3 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite.
This rejection is traversed for at least the following reasons.

The Examiner asserts that claim 3 is indefinite because it uses the language “a mixture containing a urethane polymer and a vinyl monomer.” The Examiner finds it unclear as to whether these substances are different from those recited in claim 1.

Applicants respectfully note that claim 1 recites the cleaning layer as containing “a urethane polymer and a vinyl polymer comprising an acrylic polymer,” while claim 3 states that “the cleaning layer comprises a mixture containing a urethane polymer and a vinyl monomer.” These substances clearly are different.

In order to overcome the Examiner’s rejection, however, Applicants have amended claim 3 to simply state that the cleaning layer “is formed by irradiating radiation to a mixture containing a urethane polymer and a vinyl monomer to cure it and contains the urethane polymer and a vinyl polymer.” Applicants submit that this statement overcomes the basis for rejection.

Claim Rejections - 35 U.S.C. § 103

Claims 1-5, 13 and 19-28 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Skinner et al (4,342,793). This rejection is traversed for at least the following reasons.

The Examiner substantially repeats the text of the rejection at pages 3-5 of the Office Action dated December 27, 2006. The Examiner adds at pages 4 and 5 the statement that Skinner further discloses the amount of radiation necessary to cure the reactive diluent depends on the thickness of the coating to be applied and the amount of reactive diluent in the coating

composition, with reference to col. 10, lines 32-34. Further, the Examiner notes that the recited thickness of 10-500 microns covers the thickness of coatings conventionally used in the art.

Thus, Applicants' previous arguments continue to be valid and are reemphasized, without repetition.

In the Examiner's Response to Arguments at pages 8 and 9, the Examiner notes that the claims are now rejected under § 103 but that the same art is applied and that the same arguments are maintained. The Examiner addresses a key element of the Applicants' arguments as follows.

Cleaning Sheet for Removing

The Examiner states at page 3 of the Office Action that the limitation related to a use for cleaning a probe is a "statement of use" for the material. Specifically, at page 4 of the Office Action, the limitation to a "cleaning sheet" is viewed as an intended use and the Examiner asserts that, in any event, the coatings in Skinner et al may be used for a variety of purposes including wiping debris from a probe needle.

Applicants again submit that the claims expressly recite that the layer is "adapted to receive penetrating probe needles and remove and retain impurities on a tip of said probe needle." Further, the claims now also state that there will be no re-adhering of the foreign matter or the cleaning layer material on the probe needle after the cleaning operation.

Applicants respectfully submit that these are structural and not use limitations. Further, Applicants respectfully submit that the Examiner has no basis for asserting that Skinner has such properties, as none are taught. Finally, Applicants submit that Skinner's

curable coating is the cross-linked hard coating. Such coating would not be used as a cleaning layer for removably receiving needles and for removing and retaining impurities, as would be understood by those skilled in the art.

Claims 1-5, 13 and 19-28 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Grube (6,817,052). This rejection is traversed for at least the following reasons.

Again, the Examiner substantially repeats the text of the rejection from the previous Office Action. The Examiner observes that Grube is silent with respect to the thickness of the coating but concludes it would have been obvious to one skilled in the art to adjust the thickness depending on user's preference and intended use. Further, the claim thickness of 10-500 microns is seen to be a wide range that would cover the thickness conventionally used in the art, as stated at page 6 of the Office Action.

In particular, with regard to the limitation that the "cleaning layer contains no additives" that promote wear, the Examiner notes that Grube also teaches that the cleaning pad can be made from a material having the substantially same hardness to that of the probe, in col. 9, lines 1-20. The Examiner concludes that the cleaning pad thus would not have additives that promote wear.

However, the Examiner misreads that teaching in Grube. The text requires first pressing and extracting the tips of probes 104 against an abrading pad (not the roller). Thus, debris on the tips are scrapped off or loose by repeating a cleaning cycle of pressing and extracting the tips of the probe against (and possibly into) the abrading pad. There is no suggestion that the tips go into the roller 204 or the material of the roller. Pressing the probe tips into the pad will clearly

abrade the tips, as the pad is made of abrasive material. This is contrary to the present invention and requires two structures, an abrading pad and a roller.

With respect to the limitation “adapted to receive.... probe needles,” the Examiner again notes that this is not positively recited and observes that Grube has an outer surface 302 that is capable of being adapted to have the recited functions because the coatings are solid surfaces and contain the same materials. Applicants respectfully submit that the words “adapted to” are interpreted in the context of the claim to be the same as “structured to receive” or “operative to receive.” If the Examiner finds either of these acceptable, the Examiner’s advice is requested by telephone or personal interview. In any event, a roller would not be so structured because, if the material is too hard, the tips would break and if too soft, the tips would not be cleaned. Indeed, the roller is effective only where the debris on the tips are first loosened, as taught in the cited passage.

As previously noted with respect to the Skinner et al reference, the claims as now drafted clearly overcome this basis for rejection.

Claims 3, 4, 6, 9 and 10 are rejected under 35 U.S.C. §103(a) as being unpatentable over Grube (6,817,052) in view of Skinner et al. Applicants respectfully traverse this rejection for at least the following reasons.

The Examiner asserts that Grube teaches the limitations in the parent claims and that the admitted deficiency in the above referenced claims, namely a polyurethane being formed from a polyol and polyisocyanate, or that the polymeric mixture is cured by radiation, is taught by Skinner. The Examiner asserts that Skinner teaches such limitations in the abstract, and that the

coating is free from solvent and fully crosslinked, at col. 2, lines 64-68. The Examiner asserts that it would have been obvious to use the coatings of Sinner's as the binder resins of the Grube invention to provide hard, fully crosslinked coatings having improved toughness and solvent emission.

The Examiner appears to ignore Applicants previous argument that the fully crosslinked coating would be too hard for use as a medium for penetration, and when applied to the structure of Grube, would break the tips or wear them quickly if penetration were attempted. Specifically, parent claim 1 specifies that the material "contains additives in amounts within a range in which the probe needle is not worn" and is "adapted to receive penetrating probe needles and remove and retain impurities on a tip of said probe needle." Finally, the claims now also state that there will be no re-adhering of the foreign matter or the cleaning layer material on the probe needle after the cleaning operation. Clearly, on the basis of all of the foregoing limitations that expressly appear in the claims, the present invention intends to have the probe penetrate into the layer, rather than slide across it.

Grube et al teaches directly opposite to the present invention and to Skinner et al. Grube requires use of an abrasive, which is consistent with having a tough outer layer that would prevent penetration by a probe. Second, to the extent that there is penetration of an abrasive layer in a first step, followed by a rubbing on a roller in a second step, there is a teaching away from the one-step process and structure of the present invention. Skinner is not combinable with Grube and, even if combined, does not satisfy the limitations in the claims.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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